

Having thus described the invention, what is claimed is:

- 1 1. A method of processing waste comprising the steps of:
2 gathering said waste into a stream of collected waste;
3 composting said collected waste in a composting vessel and obtaining a
4 composted discharge therefrom;
5 dividing said composted discharge into a large particle stream and a small
6 particle stream;
7 removing materials of value from said large particle stream and said small
8 particle stream;
9 combining said large and small particle streams after said removing step
10 into a combined particle stream;
11 extracting any remaining materials of value from said combined particle
12 stream;
13 grinding all materials in said reduced combined particle stream to create a
14 ground particle stream; and
15 screening said ground particle stream and collecting compost therefrom.

- 1 2. The method of Claim 1 wherein said dividing step includes the step of
2 passing said composted discharge through a screening apparatus, materials passing
3 through said screening apparatus becoming said small particle discharge while materials
4 being discharged from said screening apparatus without passing therethrough becoming
5 said large particle stream.

1 3. The method of Claim 2 wherein said step of removing materials of value
2 from said large particle stream and said small particle stream comprises the steps of:
3 freeing light materials from said large particle stream;
4 attracting ferrous materials out of both said large particle stream and said
5 small particle stream;
6 separating aluminum materials from both said large particle stream and said
7 small particle stream; and
8 collecting plastic materials from said large particle stream.

1 4. The method of Claim 3 said step of attracting ferrous materials includes the
2 step of passing said large particle stream and said small particle stream through respective
3 magnetic devices that attract ferrous materials to a location removed from the respective
4 said particle stream.

1 5. The method of Claim 3 wherein said step of freeing light materials includes
2 the step of utilizing an air classifier on said large particle stream after being discharged
3 from said screening apparatus.

1 6. The method of Claim 3 wherein said step of separating aluminum materials
2 includes the step of passing said large particle stream and said small particle stream
3 through respective eddy current mechanisms.

1 7. The method of Claim 6 wherein said separating step for said large particle
2 stream occurs after said freeing step.

1 8. The method of Claim 3 wherein said step of collecting plastic materials
2 includes the step of passing said large particle stream through a pneumatic plastic sort
3 system after said freeing step.

1 9. The method of Claim 8 wherein said attracting step, said freeing step and
2 said separating step are accomplished on said large particle stream before said collecting
3 step.

1 10. The method of Claim 3 wherein said step of extracting any remaining
2 materials of value from said combined particle stream includes the steps of:
3 attracting remaining ferrous materials out of said combined particle stream;
4 and
5 withdrawing all remaining large particles from said combined particle
6 stream to create a reduced combined particle stream.

1 11. The method of Claim 10 wherein said step of attracting remaining ferrous
2 materials includes the step of directing said combined particle stream into a rotary
3 magnetic drum pulley which attracts any remaining ferrous materials in said combined
4 particle stream to a remote location.

1 12. The method of Claim 11 wherein said step of attracting remaining ferrous
2 materials and said step of combining said large and small particle streams are
3 accomplished simultaneously by the step of directing both said large and small particle
4 streams simultaneously into said rotary magnetic drum pulley the discharge from which
5 creates said combined particle stream.

1 13. The method of Claim 10 wherein said step of withdrawing all remaining
2 large particles includes the step of passing said combined particle stream through a
3 screening apparatus, the materials passing through said screening apparatus creating said
4 reduced combined particle stream, the materials discharged from said screening apparatus
5 without passing therethrough being collected at a remote location.

1 14. The method of Claim 3 wherein said step of screening said ground particle
2 stream includes the step of passing said ground particle stream through a multi-stage
3 vibratory screen which will sort the materials in said ground particle stream by size.

1 15. The method of Claim 3 further comprising the step of:
2 shredding said stream of collected waste before said composting step.

1 16. A method of processing waste comprising the steps of:
2 gathering said waste into a stream of collected waste;
3 shredding said stream of collected waste to create a stream of shredded
4 waste materials;

5 loading said shredded waste materials into a steam pressure vessel to
6 disintegrate said shredded waste material and to destroy pathogens in said shredded waste
7 material, thereby creating a disintegrated stream of waste material;

8 dividing said disintegrated stream of waste material into a large particle
9 stream and a small particle stream;

10 creating a stream of overs from said large particle stream by removing
11 materials of value from said large particle stream;

12 further processing said stream of overs to create a fine material stream and a
13 large material stream;

14 composting materials in said small material stream and in said fine material
15 stream within a composting vessel and obtaining a composted discharge therefrom;

16 grinding all materials in said composted discharge to create a ground
17 particle stream; and

18 screening said ground particle stream and collecting compost therefrom.

1 17. The method of Claim 16 wherein said step of further processing said stream
2 of overs includes the steps of:

3 shredding materials within said stream of overs to reduce the size of said
4 materials to a predetermined maximum size;

5 then, creating a reduced stream of overs by the steps of:

6 extracting ferrous materials from said stream of overs;

7 separating aluminum materials from said stream of overs; and

8 collecting plastic materials from said stream of overs;

9 then, screening said reduced stream of overs to create a first fine material
10 stream and a first large material stream;

11 then, grinding said first large material stream to create a ground large
12 material stream;

13 then, further screening said ground large material stream to create a second
14 fine material stream and a final large material stream; and

15 directing said first and second fine material streams to said composting
16 vessel for said composting step.

1 18. The method of Claim 17 wherein said final large material stream is fed into
2 a gasifier to create heat energy for operation of said steam pressure vessel.

1 19. The method of Claim 18 wherein said dividing step includes the step of
2 passing said disintegrated stream of waste material into a screening apparatus, said first
3 and second fine material streams being added to said screening apparatus with said
4 disintegrated stream of waste material to pass therethrough and be directed to said
5 composting vessel.

1 20. The method of Claim 16 wherein said step of creating a stream of overs
2 includes the steps of:

3 extracting ferrous materials from said large particle stream;
4 separating aluminum materials from said large particle stream; and
5 collecting plastic materials from said large particle stream.